

Approved by Director

Date

Frank R. Gilhe
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NATIONAL LIBRARY SERVICE FOR THE BLIND AND PHYSICALLY HANDICAPPED
LIBRARY OF CONGRESS

SPECIFICATION #702
(Revised September 1978)

TAPE SPECIFICATION
(7-inch open reel, pretimed for mastering purposes)

Approved for distribution

Dated

Tom B. L. H.
Mar 4, '80

BACKGROUND

The National Library Service for the Blind and Physically Handicapped (NLS) of the Library of Congress administers a free library service to eligible residents of the United States and citizens living abroad who cannot hold, handle, or read traditional print media because of visual or physical handicaps.

Using federal funds, NLS annually publishes approximately 2,000 books and 70 magazines on cassettes, on discs, and in braille. Titles are selected to appeal to a wide variety of interests, and copyright permission is obtained from authors and publishers. Books and magazines are narrated and duplicated at a high-quality professional standard. The quantity produced of any title is dependent on anticipated reader demand.

Playback machines and their accessories are designed to facilitate convenient use by handicapped people and to provide maximum reliability under environmental conditions that are sometimes harsh and handling that may be technically unsophisticated or inadvertently abusive. The equipment plays program materials at noncommercial speeds: 8-1/3 rpm for discs and 15/16 ips, 4-track for cassettes. All materials and equipment in the program can be sent to users and returned to libraries postage free.

A cooperating network of 56 regional libraries and more than 100 subregional libraries circulates recorded and braille books to some 700,000 adults and children out of a potential three million eligible population. Magazine subscriptions are provided on a direct-mail basis from the manufacturers. Users must generally deal with service centers in distant cities with communication by mail or phone and little or no personal contact. Everything comes and goes through a mail-order system. Fifty percent of the users are over sixty-four years old, and many depend on the NLS program for their major source of entertainment and connection with the world; 95 percent read recorded materials, 5 percent read braille.

Users are informed about new books, magazines, and services through bimonthly publications, annual catalogs, and subject bibliographies produced by NLS, and through various publications produced and circulated by the regional and subregional libraries.

USER MATERIALS

Contractors who consider submission of a bid to produce books, equipment, or other program products should be cognizant of the consumer-responsive nature of the program, and that the specifications for these products have been developed to meet the special reader needs in the program. Materials are produced with those reader needs foremost in mind, and improved through constant monitoring and consumer input. Contractors are expected to familiarize themselves with the equipment-handling practices of blind and physically handicapped clientele and ensure that the equipment they produce will stand up under this type of use. A high degree of quality workmanship and product reliability is mandated by the product specification.

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1. SCOPE

This specification defines the requirements for pre-timed open-reel tapes, suitable for use by multi-state centers, regional and sub-regional libraries, and the National Library Service for the Blind and Physically Handicapped, Library of Congress in the talking-book program.

2. APPLICABLE DOCUMENTS

The following documents and publications, of the issue in effect on the date of invitation for bids, form a part of this specification. In the event of conflict between the documents and publications referenced herein and the content of this specification, the content of this specification shall be considered a superseding requirement.

Standards:

NAB Standard - Magnetic Tape Recording and Reproducing
(Reel to Reel), April 1965

(Copies may be obtained from the National Association of Broadcasters, 1771 N Street, N.W., Washington, D.C. 20036)

International Electrotechnical Commission (IEC)

Recommendations: IEC 94 Amendment #1 and #2 Magnetic

Tape Recording and Reproducing Systems: Dimensions and Characteristics

(Copies may be obtained from the Electronic Industries Association, Engineering Department, 2001 Eye Street, N.W., Washington, D.C. 20006.)

MIL-STD 105, Sampling Procedures and Tables for Inspection by Attributes

3. TECHNICAL SPECIFICATION

3.1 Tape Characteristics

The following tape properties shall be adhered to:

3.1.1

A polyester backing (mylar or equivalent) shall be used, 0.248 inches in width, + 0.000, -0.004 inches tolerance. Backing shall be 0.92 mils and oxide coating 0.40 for a total of 1.32 mils thickness. The tape slitting process shall provide a product free of wrinkles, frays, and tape edge stretch.

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3.1.2 Intrinsic Magnetic Properties

- a. Intrinsic Coercivity - Oxide coating used shall require 300 ± 45 oersteds to reduce intrinsic induction from saturation to zero.
- b. Retentivity - The retentivity of the required dispersion shall be 1000 ± 250 gauss.

NOTE: The figures cited under 3.1.2 a. and b. are nominal values. Actual values may vary by $\pm 10\%$ about the nominal.

3.1.3 Electro-Magnetic Properties

Tape used shall possess uniform electro-magnetic properties. Variation within a standard reel of tape shall not be more than $\pm 1/4$ dB. Variation from reel to reel shall not be more than ± 1 dB.

Such variation shall be measured according to the NAB Standard, Magnetic Tape Recording and Reproducing (Reel to Reel), April 1965, Section 1.05 through 1.06.01.

3.2 Tape Length

3.2.1

Tape length shall be 1,650 feet, +0, -9 feet. Variations from reel to reel must fall within these limits.

3.2.2

Leader/trailer requirements: Each open-reel tape shall have a 72-inch white polyester leader and a 72-inch yellow polyester trailer. Leader and trailer measurement shall not be inclusive of the tape measurement of 1,650 feet, +0, -9 feet.

3.2.3

Splices: Tape/leader-trailer splices shall be in such a manner that no possibility exists of the splicing material separating from the tape/leader-trailer under normal operating conditions or during a duplication process. The splice material adhesive shall not permit adhesive seepage at splice edges or creep of the splice when the test sample is submitted to 118 degrees F. and weighted with 11.5 oz. for a

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minimum 1 hour period.

Tape length from leader to leader shall be splice free.

3.2.4

Back coating: Back coated tapes shall not be considered or submitted.

3.3 Each open reel shall be wound on a 7-inch clear or translucent plastic reel. The reel shall be manufactured in accordance with the NAB Standard for type B open reels.

3.4 End of the tape tie down shall be of such a nature that no adhesive residue shall remain when the tie down is removed.

4. QUALITY ASSURANCE

4.1 The contractor is required to use a lot inspection sampling plan for the following performance requirements:

Section	3.1.1
Section	3.1.3
Section	3.2
Section	3.4

The Acceptable Quality Level (AQL) shall be 0.65%, The sampling shall be in accord with MIL-STD 105, Sampling Procedures and Tables for Inspection by Attributes.

The contractor is required to perform 100% inspection for the following requirements:

Section	3.3
Section	5.1
Section	5.2

4.2 The contractor is required to provide written documentation showing that his methods of quality control incorporate those established by this specification under Section 4.1.

4.3 Should NLS determine that significant fault or faults be found in production units,

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then correction of the fault or faults in previously produced units and production inspections or controls for prevention shall be instituted without additional charge to NLS.

- 4.4 The contractor shall agree to unconditionally warrant each open reel tape he produces for this program for a period of 1 year. Reels that are not found to be in conformance with the requirements of this specification shall be returned to the contractor via the U.S. Postal Service. Defective reels shall be replaced without equivocation within 2 working days. Records shall be kept and the defective reel retained. Records will be reviewed on a quarterly basis by the contractor and the contracting officer (or his designee) for the NLS until the end of the warranty period. Upon such review, warranty claims shall be allowed dependent upon the cause of the defect in the product. In the case of dispute, the decision of the contracting officer (or his designee) shall prevail.
- 4.5 The right is reserved by the National Library Service for the Blind and Physically Handicapped, Library of Congress, to inspect any process or tests being performed. The Library representative shall have the authority to select, at random, a sample of the tapes at any time during the course of the contract for testing to the specified requirements. The right is reserved by the National Library Service for the Blind and Physically Handicapped, Library of Congress, to reject any production lot represented by a tested sample which has been rejected.

5. LABELING AND PACKAGING

- 5.1 Each individual reel shall be red in color or have a 1-inch diameter, red pressure sensitive dot attached to the reel.
- 5.2 Each individual reel box shall have a red overlay, matching as closely as possible the color of the reel dot inside. The overlay shall be printed with the following legend:

"For use as an 88 minute master tape only. Speed 3-3/4 ips."
- 5.3 Reels shall be over-packed 12 to a carton. Each carton shall have a matching color overlay to identify contents.
- 5.4 End of the leader tie down shall be of such a nature that no adhesive residue shall remain when the tie down is removed.